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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,579	03/04/2002	Patrick Peterson	01-4004C	5046

32127 7590 02/12/2004

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EXAMINER

GAUTHIER, GERALD

ART UNIT	PAPER NUMBER
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2645

DATE MAILED: 02/12/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

*[Handwritten mark]*

**Office Action Summary**

Application No.

10/090,579

Applicant(s)

PETERSON ET AL.

Examiner

Gerald Gauthier

Art Unit

2645

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \*   c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. **Claims 1-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Perrone (US 6,418,199) in view of Benson et al. (US 2002/0067821) and in further view of Emerson et al. (US 5,845,276).

Regarding **claim 1**, Perrone discloses a voice control of a server (column 1, lines 9-11), (which reads on claimed "a method of visually representing user behavior within an interactive voice response system (14 on FIG. 1B) of a call-processing center (122 on FIG. 1C), in which the IVR system generates user prompts (FIG. 3A), including

a first prompt (72 on FIG. 3A) generated upon entry of a user (2 on FIG. 1A) into the IVR system, and subsequent prompts triggered by data inputted by a user (2 on FIG. 1A) or by internal processing of the IVR system that cause a branching in a call flow (76 on FIG. 3A) within the IVR system”), the method comprising the steps of:

modeling a call flow (column 9, line 4 “the incoming call”) of the IVR system as a non deterministic finite-state machine, such that a start state of the finite-state machine represents a first prompt (column 9, line 8 “Welcome to the..”) of the IVR system, other states of the finite-state machine represent subsequent prompts (column 9, line 18 “audible information to the caller”) at which a branching occurs in the call flow of the IVR system, exit conditions are represented as end states (column 9, line 22 “presses the Submit buttons”), and transitions of the finite state machine represent transitions between call flow states triggered by data inputted by a user (2 on FIG. 1A) or by internal processing of the IVR system (column 9, lines 1-28) [The IVR systems stored information that identify the inbound call in a table of database and the information is used for further prompts];

providing the complete sequences of events for the plural calls to the finite-state machine (column 9, lines 42-54), such that:

for states with at least one child or subsequent state, there are provided state-transition counters, and for exit states, there are provided counters representing exit conditions from the IVR system, separating different levels of automation achieved (column 10, lines 19-28) [The active graphics and text items can be associated with the same hyperlink to conclude the IVR session].

Perrone fails to disclose generating and storing a complete sequence of events.

However, Benson teaches generating and storing a complete sequence of events (§ 0029, line 2 “updating the call log”) within the IVR system for plural calls to the call processing center, the plural calls being recorded from end to end (§ 0029) [The update call log component update the call log with information receive from the calls and other information].

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use generating and storing a complete sequence of events of Benson in the invention of Perrone.

The modification of the invention would offer the capability of generating and storing a complete sequence of events such as the system would monitor call performance.

Perrone and Benson fail to disclose a two-way matrix of several counters.

However, Emerson teaches a two-way matrix of several counters (column 19, line 25 “setup report two-way matrix”); and

visually representing data from the two-way matrix as a state-transition diagram (FIG. 4).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the state transition two-way matrix of Emerson in the invention of Perrone and Benson.

The modification of the invention would offer the capability of the state transition two-way matrix such as the system would allow direct marketing personal to reduce their time.

Regarding **claims 2, 5, 8 and 11**, Perrone discloses wherein each node of the state-transition diagram represents one of a specific prompt in the call flow of the IVR system, a prompt with re-prompts and retries, and a complete subsection of the IVR system, which represents many different prompts (column 8, lines 58-65).

Regarding **claims 3, 6, 9 and 12**, Perrone discloses wherein exit conditions in the state-transition diagram are represented by leaves, each of the leaves indicating one of a call resolved in the IVR system, a call transferred to a live agent, and a caller hanging up without obtaining useful information (column 11, lines 33-46).

Regarding **claim 4**, Perrone discloses a voice control of a server (column 1, lines 9-11), (which reads on claimed "an apparatus for visually representing user behavior within an interactive voice response system (14 on FIG. 1B) of a call-processing center (122 on FIG. 1C), in which the IVR system generates user prompts (FIG. 3A), including a first prompt (72 on FIG. 3A) generated upon entry of a user (2 on FIG. 1A) into the IVR system, and subsequent prompts triggered by data inputted by a user (2 on FIG. 1A) or by internal processing of the IVR system that cause a branching in a call flow (76 on FIG. 3A) within the IVR system"), the apparatus comprising:

means for modeling a call flow (column 9, line 12 "the inbound call") of the IVR system as a non-deterministic finite-state machine (column 9, line 10 "your session number is"), such that a start state of the finite-state machine represents a first prompt (column 9, line 8 "Welcome to the..") of the IVR system, other states of the finite-state machine represent subsequent prompts (column 9, line 18 "audible information to the caller") at which a branching occurs in the call flow of the IVR system, exit conditions are represented as end states (column 9, line 22 "presses the Submit buttons"), and transitions of the finite-state machine represent transitions between call flow states triggered by data inputted by a user (2 on FIG. 1A) or by internal processing of the IVR system (column 9, lines 8-28) [The call flow information are store on the IVR system in association with the session identifier of the caller];

means for providing the complete sequences of events for the plural calls to the finite-state machine (column 9, lines 42-54), such that:

for states with at least one child or subsequent state, there are provided state-transition counters, and for exit states, there are provided counters representing exit conditions from the IVR system, separating different levels of automation achieved (column 10, lines 19-28) [The active graphics and text items can be associated with the same hyperlink to conclude the IVR session].

Perrone fails to disclose generating and storing a complete sequence of events.

However, Benson teaches means for generating and storing a complete sequence of events within the IVR system for plural calls to the call processing center,

the plural calls being recorded from end to end (§ 0029) [The update call log component update the call log with information receive from the calls and other information].

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use generating and storing a complete sequence of events of Benson in the invention of Perrone.

The modification of the invention would offer the capability of generating and storing a complete sequence of events such as the system would monitor call performance.

Perrone and Benson fail to disclose a two-way matrix of several counters.

However, Emerson teaches means to produce a two-way matrix of several counters (column 19, line 25 "setup report two-way matrix"); and

means for visually representing data from the two-way matrix as a state-transition diagram (FIG. 4).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the state transition two-way matrix of Emerson in the invention of Perrone and Benson.

The modification of the invention would offer the capability of the state transition two-way matrix such as the system would allow direct marketing personal to reduce their time.

Regarding **claim 7**, Perrone discloses a voice control of a server (column 1, lines 9-11), (which reads on claimed "a system for visually representing user behavior



within an interactive voice response system (14 on FIG. 1B) of a call processing center (122 on FIG. 1C), in which the IVR system generates user prompts (FIG. 3), including a first prompt (72 on FIG. 3A) generated upon entry of a user (2 on FIG. 1A) into the IVR system, and subsequent prompts triggered by data inputted by a user (2 on FIG. 1A) or by internal processing of the IVR system that cause a branching in a call flow (76 on FIG. 3A) within the IVR system"), the system being operable to:

model a call flow of the IVR system (column 9, line 12 "the inbound call") as a non-deterministic finite-state machine (column 9, line 10 "your session number is"), such that a start state of the finite-state machine represents a first prompt of the IVR system (column 9, line 8 "Welcome to the.."), other states of the finite-state machine represent subsequent prompts (column 9, line 18 "audible information to the caller") at which a branching occurs in the call flow of the IVR system, exit conditions are represented as end states (column 9, line 22 "presses the Submit buttons"), and transitions of the finite-state machine represent transitions between call flow states triggered by data inputted by a user (2 on FIG. 1A) or by internal processing of the IVR system (column 9, lines 8-28) [The call flow information are store on the IVR system in association with the session identifier of the caller];

provide the complete sequences of events for the plural calls to the finite-state machine (column 9, lines 42-54), such that:

for states with at least one child or subsequent state, there are provided state-transition counters, and for exit states, there are provided counters representing exit conditions from the IVR system, separating different levels of automation achieved

(column 10, lines 19-28) [The active graphics and text items can be associated with the same hyperlink to conclude the IVR session].

Perrone fails to disclose generating and storing a complete sequence of events.

However, Benson teaches generate and store a complete sequence of events within the IVR system for plural calls to the call processing center, the plural calls being recorded from end to end (§ 0029) [The update call log component update the call log with information receive from the calls and other information].

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use generating and storing a complete sequence of events of Benson in the invention of Perrone.

The modification of the invention would offer the capability of generating and storing a complete sequence of events such as the system would monitor call performance.

Perrone and Benson fail to disclose a two-way matrix of several counters.

However, Emerson teaches to produce a two-way matrix of several counters (column 19, line 25 “setup report two-way matrix”); and

visually represent data from the two-way matrix as a state-transition diagram (FIG. 4).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the state transition two-way matrix of Emerson in the invention of Perrone and Benson.

The modification of the invention would offer the capability of the state transition two-way matrix such as the system would allow direct marketing personal to reduce their time.

Regarding **claim 10**, Perrone discloses a voice control of a server (column 1, lines 9-11), (which reads on claimed “a computer program product (column 6, line 40 “application program”) embodying a program for implementing a method of visually representing user behavior within an interactive voice response system (14 on FIG. 1B) of a call processing center (122 on FIG. 1C), in which the IVR system generates user prompts (FIG. 3A), including a first prompt (72 on FIG. 3A) generated upon entry of a user (2 on FIG. 1A) into the IVR system, and subsequent prompts triggered by data inputted by a user (2 on FIG. 1A) or by internal processing of the IVR system that cause a branching in a call flow within the IVR system”), the computer program product comprising:

code for modeling a call flow of the IVR system (column 9, line 12 “the inbound call”) as a non-deterministic finite-state machine (column 9, line 10 “your session number is”), such that a start state of the finite-state machine represents a first prompt of the IVR system (column 9, line 8 “Welcome to the..”), other states of the finite-state machine represent subsequent prompts (column 9, line 18 “audible information to the caller”) at which a branching occurs in the call flow of the IVR system, exit conditions are represented as end states (column 9, line 22 “presses the Submit buttons”), and transitions of the finite-state machine represent transitions between call flow states

triggered by data inputted by a user (2on FIG. 1A) or by internal processing of the IVR system (column 9, lines 8-28) [The call flow information are store on the IVR system in association with the session identifier of the caller];

code for providing the complete sequences of events for the plural calls to the finite-state machine (column 9, lines 42-54), such that:

for states with at least one child or subsequent state, there are provided state-transition counters, and for exit states, there are provided counters representing exit conditions from the IVR system, separating different levels of automation achieved (column 10, lines 19-28) [The active graphics and text items can be associated with the same hyperlink to conclude the IVR session].

Perrone fails to disclose generating and storing a complete sequence of events.

However, Benson teaches code for generating and storing a complete sequence of events within the IVR system for plural calls to the call processing center, the plural calls being recorded from end to end (§ 0029) [The update call log component update the call log with information receive from the calls and other information].

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use generating and storing a complete sequence of events of Benson in the invention of Perrone.

The modification of the invention would offer the capability of generating and storing a complete sequence of events such as the system would monitor call performance.

Perrone and Benson fail to disclose a two-way matrix of several counters.

However, Emerson teaches code to produce a two-way matrix of several counters (column 19, line 25 “setup report two-way matrix”); and

code for visually representing data from the two-way matrix as a state-transition diagram (FIG. 4).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the state transition two-way matrix of Emerson in the invention of Perrone and Benson.

The modification of the invention would offer the capability of the state transition two-way matrix such as the system would allow direct marketing personal to reduce their time.

Regarding **claim 13**, Perrone discloses a voice control of a server (column 1, lines 9-11), (which reads on claimed “a method of visually representing user behavior within an automated response system (14 on FIG. 1B) of a contact processing center (122 on FIG. 1C), in which the automated response system generates user prompts, including a first prompt generated upon entry of a user (2 on FIG. 1A) into the automated response system, and subsequent prompts triggered by data inputted by a user (2 on FIG. 1A) or by internal processing of the automated response system that cause a branching in a contact flow within the automated response system”), the method comprising the steps of:

modeling a contact flow of the automated response system (column 9, line 12 “the inbound call”) as a non-deterministic finite-state machine (column 9, line 10 “your

session number is”), such that a start state of the finite-state machine represents a first prompt of the automated response system (column 9, line 8 “Welcome to the..”), other states of the finite-state machine represent subsequent prompts (column 9, line 18 “audible information to the caller”) at which a branching occurs in the contact flow of the automated response system, exit conditions are represented as end states (column 9, line 22 “presses the Submit buttons”), and transitions of the finite-state machine represent transitions between contact flow states triggered by data inputted by a user (2 on FIG. 1A) or by internal processing of the automated response system (column 9, lines 8-28) [The call flow information are store on the IVR system in association with the session identifier of the caller];

providing the complete sequences of events for the plural contacts to the finite-state machine (column 9, lines 42-54), such that:

for states with at least one child or subsequent state, there are provided state-transition counters, and for exit states, there are provided counters representing exit conditions from the automated response system, separating different levels of automation achieved (column 10, lines 19-28) [The active graphics and text items can be associated with the same hyperlink to conclude the IVR session].

Perrone fails to disclose generating and storing a complete sequence of events.

However, Benson teaches generating and storing a complete sequence of events within the automated response system for plural contacts to the contacts processing center, the plural contacts being recorded from end to end (¶ 0029) [The

update call log component update the call log with information receive from the calls and other information].

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use generating and storing a complete sequence of events of Benson in the invention of Perrone.

The modification of the invention would offer the capability of generating and storing a complete sequence of events such as the system would monitor call performance.

Perrone and Benson fail to disclose a two-way matrix of several counters.

However, Emerson teaches to produce a two-way matrix of several counters (column 19, line 25 "setup report two-way matrix"); and

visually representing data from the two-way matrix as a state-transition diagram (FIG. 4).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the state transition two-way matrix of Emerson in the invention of Perrone and Benson.

The modification of the invention would offer the capability of the state transition two-way matrix such as the system would allow direct marketing personal to reduce their time.

Regarding **claim 14**, Perrone discloses a voice control of a server (column 1, lines 9-11), (which reads on claimed "an apparatus for visually representing user

behavior within an automated response system (14 on FIG. 1B) of a contact processing center (122 on FIG. 1C), in which the automated response system generates user prompts, including a first prompt generated upon entry of a user (2 on FIG. 1A) into the automated response system, and subsequent prompts triggered by data inputted by a user (2 on FIG. 1A) or by internal processing of the automated response system that cause a branching in a contact flow within the automated response system”), the apparatus comprising:

means for modeling a contact flow of the automated response system (column 9, line 12 “the inbound call”) as a non-deterministic finite-state machine (column 9, line 10 “your session number is”), such that a start state of the finite-state machine represents a first prompt of the automated response system (column 9, line 8 “Welcome to the..”), other states of the finite-state machine represent subsequent prompts (column 9, line 18 “audible information to the caller”) at which a branching occurs in the contact flow of the automated response system, exit conditions are represented as end states (column 9, line 22 “presses the Submit buttons”), and transitions of the finite-state machine represent transitions between contact flow states triggered by data inputted by a user (2 on FIG. 1A) or by internal processing of the automated response system (column 9, lines 8-28) [The call flow information are store on the IVR system in association with the session identifier of the caller];

means for providing the complete sequences of events for the plural contacts to the finite-state machine (column 9, lines 42-54), such that:



for states with at least one child or subsequent state, there are provided state-transition counters, and for exit states, there are provided counters representing exit conditions from the automated response system, separating different levels of automation achieved (column 10, lines 19-28) [The active graphics and text items can be associated with the same hyperlink to conclude the IVR session].

Perrone fails to disclose generating and storing a complete sequence of events.

However, Benson teaches means for generating and storing a complete sequence of events within the automated response system for plural contacts to the contact-processing center, the plural contacts being recorded from end to end (§ 0029) [The update call log component update the call log with information receive from the calls and other information].

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use generating and storing a complete sequence of events of Benson in the invention of Perrone.

The modification of the invention would offer the capability of generating and storing a complete sequence of events such as the system would monitor call performance.

Perrone and Benson fail to disclose a two-way matrix of several counters.

However, Emerson teaches means to produce a two-way matrix of several counters (column 19, line 25 "setup report two-way matrix"); and

means for visually representing data from the two-way matrix as a state-transition diagram (FIG. 4).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the state transition two-way matrix of Emerson in the invention of Perrone and Benson.

The modification of the invention would offer the capability of the state transition two-way matrix such as the system would allow direct marketing personal to reduce their time.

Regarding **claim 15**, Perrone discloses a voice control of a server (column 1, lines 9-11), (which reads on claimed “a system for visually representing user behavior within an automated response system (14 on FIG. 1B) of a contact processing center (122 on FIG. 1C), in which the automated response system generates user prompts, including a first prompt generated upon entry of a user (2 on FIG. 1A) into the automated response system, and subsequent prompts triggered by data inputted by a user (2 on FIG. 1A) or by internal processing of the automated response system that cause a branching in a contact flow within the automated response system”), the system being operable to:

model a contact flow of the automated response system (column 9, line 12 “the inbound call”) as a non-deterministic finite-state machine (column 9, line 10 “your session number is”), such that a start state of the finite-state machine represents a first prompt of the automated response system (column 9, line 8 “Welcome to the..”), other states of the finite-state machine represent subsequent prompts (column 9, line 18 “audible information to the caller”) at which a branching occurs in the contact flow of the

automated response system, exit conditions are represented as end states (column 9, line 22 “presses the Submit buttons”), and transitions of the finite-state machine represent transitions between contact flow states triggered by data inputted by a user (2 on FIG. 1A) or by internal processing of the automated response system (column 9, lines 8-28) [The call flow information are store on the IVR system in association with the session identifier of the caller];

provide the complete sequences of events for the plural contacts to the finite-state machine (column 9, lines 42-54), such that:

for states with at least one child or subsequent state, there are provided state-transition counters, and for exit states, there are provided counters representing exit conditions from the automated response system, separating different levels of automation achieved (column 10, lines 19-28) [The active graphics and text items can be associated with the same hyperlink to conclude the IVR session].

Perrone fails to disclose generating and storing a complete sequence of events.

However, Benson teaches generate and store a complete sequence of events (column 7, line 26 “greetings and messages”) within the automated response system for plural contacts to the contact-processing center, the plural contacts being recorded from end to end (§ 0029) [The update call log component update the call log with information receive from the calls and other information].

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use generating and storing a complete sequence of events of Benson in the invention of Perrone.

The modification of the invention would offer the capability of generating and storing a complete sequence of events such as the system would monitor call performance.

Perrone and Benson fail to disclose a two-way matrix of several counters.

However, Emerson teaches to produce a two-way matrix of several counters (column 19, line 25 "setup report two-way matrix"); and visually represent data from the two-way matrix as a state transition diagram (FIG. 4).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the state transition two-way matrix of Emerson in the invention of Perrone and Benson.

The modification of the invention would offer the capability of the state transition two-way matrix such as the system would allow direct marketing personal to reduce their time.

Regarding **claim 16**, Perrone discloses a voice control of a server (column 1, lines 9-11), (which reads on claimed "a computer program product (column 6, line 40 "application programs") embodying a program for implementing a method of visually representing user behavior within an automated response system (14 on FIG. 1B) of a contact processing center (122 on FIG. 1C), in which the automated response system generates user prompts, including a first prompt generated upon entry of a user (2 on FIG. 1A) into the automated response system, and subsequent prompts triggered by

data inputted by a user (2 on FIG. 1A) or by internal processing of the automated response system that cause a branching in a contact flow within the automated response system”), the program product comprising:

code for modeling a contact flow of the automated response system (column 9, line 12 “the inbound call”) as a non-deterministic finite-state machine (column 9, line 10 “your session number is”), such that a start state of the finite-state machine represents a first prompt of the automated response system (column 9, line 8 “Welcome to the..”), other states of the finite-state machine represent subsequent prompts (column 9, line 18 “audible information to the caller”) at which a branching occurs in the contact flow of the automated response system, exit conditions are represented as end states (column 9, line 22 “presses the Submit buttons”), and transitions of the finite state machine represent transitions between contact flow states triggered by data inputted by a user (2 on FIG. 1A) or by internal processing of the automated response system (column 9, lines 8-28) [The call flow information are store on the IVR system in association with the session identifier of the caller];

code for providing the complete sequences of events for the plural contacts to the finite-state machine (column 9, lines 42-54), such that:

for states with at least one child or subsequent state, there are provided state-transition counters, and for exit states, there are provided counters representing exit conditions from the automated response system, separating different levels of automation achieved (column 10, lines 19-28) [The active graphics and text items can be associated with the same hyperlink to conclude the IVR session].

Perrone fails to disclose generating and storing a complete sequence of events.

However, Benson teaches code for generating and storing a complete sequence of events (column 7, line 26 "greetings and messages") within the automated response system for plural contacts to the contact-processing center, the plural contacts being recorded from end to end (¶ 0029) [The update call log component update the call log with information receive from the calls and other information].

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use generating and storing a complete sequence of events of Benson in the invention of Perrone.

The modification of the invention would offer the capability of generating and storing a complete sequence of events such as the system would monitor call performance.

Perrone and Benson fail to disclose a two-way matrix of several counters.

However, Emerson teaches to produce a two-way matrix of several counters (column 19, line 25 "setup report two-way matrix"); and

code for visually representing data from the two-way matrix as a state-transition diagram (FIG. 4).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the state transition two-way matrix of Emerson in the invention of Perrone and Benson.

The modification of the invention would offer the capability of the state transition two-way matrix such as the system would allow direct marketing personal to reduce their time.

### ***Response to Arguments***

4. Applicant's arguments with respect to **claims 1-16** have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

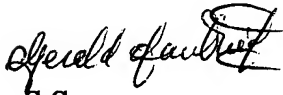
5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gerald Gauthier whose telephone number is (703) 305-0981. The examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (703) 305-4895. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4800.

  
g.g.  
February 9, 2004

FAN TSANG  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

